

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings of claims in the application:

**Listing of Claims:**

1                   1.       (Previously presented): An error correction coding method for use with an  
2 error correction coding apparatus, comprising the steps of:  
3                   subdividing data which includes data of a plurality of sectors;  
4                   allocating the subdivided data in a plurality of arrangements of data;  
5                   coding each of said arrangements of data using a product code according to a code  
6 V and a code H and thereby generating a plurality of product-code codewords; and  
7                   outputting code-H codewords of each of said product-code codewords in a  
8 codeword-by-codeword manner in an alternating fashion for said plurality of product-code  
9 codewords,  
10                  wherein data of each sector lies on a plurality of said code-H codewords, and  
11 between the outputted data of each sector there does not exist data of another sector.

2 - 7. (Canceled)

1                   8.       (Previously presented): An error correction coding apparatus, comprising:  
2 means for subdividing data which includes data of a plurality of sectors;  
3 means for allocating said subdivided data in a plurality of arrangements of data;  
4 means for coding each of said arrangements of data using a product code  
5 according to a code V and a code H and thereby generating a plurality of product-code  
6 codewords; and  
7                   means for outputting code-H codewords of each of said product-code codewords  
8 in a codeword-by-codeword manner in an alternating fashion for said plurality of product-code  
9 codewords,  
10                  wherein data of each sector lies on a plurality of said code-H codewords, and  
11 between the outputted data of each sector there does not exist data of another sector.

9 - 17. (Canceled)

1           18.   (Previously presented): An error correction decoding method for use with  
2 an error correction decoding apparatus comprising the steps of:

3               inputting data of code-H codewords with or without error data, in an order such  
4 that data of each sector lies on a plurality of said code-H codewords, and between the outputted  
5 data of each sector there does not exist data of another sector;

6               allocating said inputted data of code-H codewords in an arrangement of a plurality  
7 of product-code codewords according to a code V and a code H in a codeword-by-codeword  
8 manner in an alternating fashion for said plurality of product-code codewords with or without  
9 error data;

10              decoding said plurality of product-code codewords with said code V and said  
11 code H thereby to correct error data; and

12              providing data of said plurality of sectors from among said plurality of  
13 product-code codewords corrected.

19.   (Canceled)

1           20.   (Previously presented): An error correction decoding apparatus  
2 comprising:

3               means for inputting data of code-H codewords with or without error data in an  
4 order such that data of each sector lies on a plurality of said code-H codewords, and between the  
5 outputted data of each sector there does not exist data of another sector;

6               means for allocating said inputted data of code-H codewords in an arrangement of  
7 a plurality of product-code codewords according to a code V and a code H in a codeword-by-  
8 codeword manner in an alternating fashion for said plurality of product-code codewords with or  
9 without error data;

10              means for decoding said plurality of product-code codewords with said code V  
11 and said code H thereby to correct error data; and

12 means for providing data of said plurality of sectors from among said plurality of  
13 product-code codewords corrected.

21. (Canceled)

1 22. (Previously presented): An error correction coding method according to  
2 claim 1, wherein the outputted data are stored in a storage.

23. (Canceled)

1 24. (Previously presented): An error correction coding apparatus according to  
2 claim 8, wherein the outputted data are stored in a storage.

25. (Canceled)

1 26. (Previously presented): An error correction decoding method according to  
2 claim 18, wherein the inputted data are read from a storage.

27. (Canceled)

1 28. (Previously presented): An error correction decoding apparatus according  
2 to claim 20, wherein the inputted data are read from a storage.

29. (Canceled)